UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 28 FEB 1992

SUBJECT: ACTION MEMORANDUM - $2 Million Exemption Request for a Removal Action at the Enterprise Oil Site, Detroit, Wayne County, Michigan (Site Spill ID #PG)

FROM: Valdas V. Adamkus
Regional Administrator

TO:
Don R. Clay
Assistant Administrator
for Solid Waste Management and Emergency Response

THRU: Henry L. Longest II, Director
Office of Emergency and Remedial Response (Superfund)

I. PURPOSE

The purpose of this memorandum is to obtain your approval to expend up to $2,013,800 to mitigate threats to public health and the environment posed by the presence of uncontrolled waste oil and hazardous substances located at the Enterprise Oil site, 14445 Linwood Avenue, Detroit, Wayne County, Michigan. The proposed removal action seeks to abate the release of waste oil and hazardous substances and materials by removing drums containing volatile organic compounds, flammable liquids, and tanks of waste oil containing hazardous substances under Section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

The site is not on the National Priorities List (NPL).

II. SITE CONDITIONS

CERCLIS ID # MID 985 622 778

The proposed removal action at the Enterprise Oil site is a time-critical emergency due to conditions at the site. The On-Scene Coordinator (OSC) and Technical Assistance Team (TAT) conducted a formal site assessment on September 11, 1991, and documented site conditions.

Access to the site was found to be unrestricted, portions of the perimeter fence were missing, and the gates leading to the facility were broken and left open. There are two large aboveground tank farms containing waste oil located on site: one with four 250,000-gallon tanks and another with twelve 20,000-gallon tanks. On several occasions, vandals had entered the site and removed the valves connected to the 250,000-gallon tanks, releasing their contents to the containment structure surrounding the tank farm. Waste oil was migrating off site under the containment wall and accumulating along a railroad line adjacent to the facility. Extensive surface soil contamination was

observed throughout the site, and two storm sewer drains were noted to be blocked by oil-soaked soil and sludge. Several tank trucks and fuel oil tanks were also found, many open and releasing their contents. Approximately fifty 55-gallon drums of unknown material and suspected flammable solvents were observed scattered throughout the site. Labels on some of these drums indicated hazardous waste and isopropanol, which has a flash point of 53 degrees Fahrenheit (°F), indicating the presence of ignitable hazardous waste under the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 40 CFR 261.24. Many of the drums found on site are in various stages of deterioration, many open and on their sides, releasing their contents.

Analysis of samples collected from the waste oil which had released from the on-site storage tanks has revealed the presence of chemical solvents above the Toxicity Characteristic Leachate Procedure (TCLP) regulatory limits for those compounds (see Table 1). The chemical solvents found in the waste oil at the site are not inherently found in refined petroleum fractions and are hazardous substances under Section 101(14) of CERCLA.

III. PHYSICAL LOCATION

The Enterprise Oil site is bordered to the north by the Consolidated Rail Corporation (CONRAIL) railroad tracks and a hospital laundry processing facility, to the east by Linwood Avenue and a gas station, to the south by private residences along Doris Street, and to the west by Lawton Avenue and a small commercial business.

An elementary school and boys home for mentally handicapped and orphaned children are located approximately 1/8 mile north of the Enterprise Oil facility. There is a play field adjacent both of these institutions and children are often observed on the grounds. The CONRAIL tracks which border the site to the north are frequently used as a pathway for children on their way to and from school and the boys home. On several occasions the TAT and OSC have observed children walking along the tracks. Waste oil contained in storage tanks bordering the CONRAIL tracks has been released on several occasions and has migrated off-site along the railroad tracks. Evidence of trespass has been observed along this boundary of the site. Vandals have removed entrance gates and cut out sections of the perimeter fence to gain access to the abandoned facility.

In 1990, the estimated population of Detroit, Michigan, was 1,027,974 (U.S. Bureau of the Census). Approximately 7,200 people are located within 1 square mile of the Enterprise Oil site. Area land use is primarily residential, commercial, and industrial.

IV. SITE DESCRIPTION AND BACKGROUND

The Enterprise Oil site was initially developed by the Citrin-Kolb Oil Company which operated the site from 1956 to 1968. Site operations included the storage and transfer of kerosene, gasoline, and fuel oil from on-site tanks to tank trucks for delivery to private homes and commercial businesses. Between 1968 and 1976, little commercial activity took place and the facility was available for sale.

In March 1976, Citrin-Kolb sold the facility to the Enterprise Oil Company who operated the site as a waste oil storage and transfer facility. In June 1987, Enterprise Oil sold the facility to the D & W Oil Company who then operated the site until March 1988, when it was sold to Martin J. Pierce and Fred Levine. Mr. Levine sold his share to Motor Oil Refining Company (MORECO), a company incorporated in the State of Illinois in August 1989.

MORECO operated the facility as a waste oil storage terminal, collecting waste oil and cutting oil from the automotive and railroad industries from March 1988 until its closure in December 1988. The site consists of two aboveground tank farms and process piping and pumping stations, a heat exchanger used to drive off water that may be present in the oil, two sludge tanks, ten underground storage tanks, railroad spur, boiler room, maintenance garage, and offices.

The largest aboveground tank farm consists of four 250,000-gallon tanks, process piping and pumping station, and a secondary containment structure (dike) comprised of four concrete walls and an earthen floor. The second aboveground tank farm consists of twelve 20,000-gallon tanks, a heat exchanger, process piping and pumping station, and a dike with three concrete walls and an earthen floor.

On April 25, 1990, the Detroit Fire Department (DFD) responded to a report that tanks were leaking at the Enterprise Oil site. The DFD conducted an inspection of the facility and found the site to be abandoned and that approximately 200-300 gallons of waste oil had been released and confined to the facility property. The DFD placed sand over the affected area and contacted the City of Detroit Department of Community and Industrial Hygiene (DCIH). The DCIH reported the incident to the Michigan Department of Natural Resources, Environmental Response Division (MDNR-ERD), Southeast District office.

On April 30, 1990, a meeting was held at the Enterprise Oil site with representatives from the MDNR, DFD, and MORECO to discuss undertaking cleanup activities at the site. The DFD expressed concern over fire hazards that may be present due to residual waste oil remaining in the tanks, and that access to the site was unrestricted. MORECO responded that all tanks inside the diked areas were empty. MORECO agreed to cleanup the recent spill and address the soil contamination.

The Michigan State Police contacted the MDNR on April 24, 1991, and reported that vandals had removed valves from the on-site tanks and released waste oil. The report stated that the waste oil was partially being contained within the dike area, but was migrating off-site and had impacted an area along a railroad track north of the dike wall. The DFD responded to the incident and removed the waste oil that was contained within the dike.

On July 23, 1991, the DFD responded to another report of an oil spill at the facility. It was reported to the MDNR that four aboveground storage tanks were leaking waste oil and water into the dike area. The waste oil was seeping under the dike wall and migrating along the railroad tracks adjacent to the site. The MDNR contacted MORECO and advised them that a cleanup must start immediately.

During July 24-26, 1991, MORECO contracted a local licensed waste hauler to remove all the waste oil which had been released from the facility. MORECO informed the MDNR that all contaminated soil and residual material in the on-site tanks would be removed. Approximately 44,000 gallons of waste oil were pumped from the dike and along the railroad tracks and transported to a local oil recycling company. Analysis of the waste oil by the recycling facility revealed elevated levels of chlorine at 2,660 parts per million (ppm).

On July 26, 1991, the MDNR conducted an inspection of the site as cleanup operations proceeded. Inspectors observed extensive surface soil contamination throughout the property and that the waste oil release had impacted the soil along the railroad tracks north of the dike wall. Access was found to be unrestricted and portions of the perimeter fence removed and gates damaged and open. Trash and debris were scattered throughout the site.

Drainage from the site is confined to the City of Detroit combined sewer system. During periods of heavy rainfall, overloaded sewer lines are allowed to bypass treatment and be discharged directly to the Detroit River. There is a possibility of a direct discharge to the Detroit River from the sanitary system during this controlled bypass. The Detroit River is used for recreation and as a drinking water supply for communities south of Detroit.

The MDNR issued a notice letter on July 30, 1991, informing MORECO that they were a responsible party under the Michigan Environmental Response Act, Public Act 1982, and under Section 10(a) of Act 307. MORECO was also informed of their failure to notify the MDNR within 24 hours of the release of hazardous substances at the site. The MDNR requested that MORECO undertake and complete removal activities within 90 days.

On August 21, 1991, the City of Detroit DCIH contacted the United States Environmental Protection Agency (U.S. EPA) Emergency and Enforcement Response Branch, Section 1, Grosse Ile, Michigan, and requested immediate spill response action at the site.

Between September 6, 1991, and September 18, 1991, the U.S. EPA Technical Assistance Team (TAT) conducted a site assessment of the Enterprise Oil property. Approximately 50 drums of unknown material and suspected flammable solvents were found scattered throughout the site. Labels on some of the drums indicated flammable isopropanol and hazardous waste. Extensive soil contamination was observed throughout the site and several storm sewers had become blocked by oil-soaked soil and sludge. Several fuel oil tanks and small containers of oil and unknown materials were also found, many open and releasing their contents. Access to the site was unrestricted and portions of the perimeter fence were missing. Gates to the facility were broken and left open. Clothing and other personal belongings were observed on site, indicating that vagrants had been living in the buildings.

Two large aboveground tank farms, one with four 250,000-gallon tanks and another with twelve 20,000-gallon tanks, were observed along the northern boundary of the site. Waste oil was observed inside the dike structure surrounding the tank farm containing the 250,000-gallon tanks. An area outside the north wall of the dike contained a large pool of waste oil that had begun to migrate off site under the railroad tracks. The waste oil was observed to be accumulating along the northern section of the tracks. The TAT also observed that several of the storage tanks still contained material.

Analytical results of liquid, solid, and soil samples collected from drums, tanks, and affected spill areas revealed some drums with flash points ranging between 70 and 85° F, the presence of heavy metals such as arsenic, chromium, cadmium, lead, thallium, zinc, and volatile organic chemicals such as benzene, xylene, methylene chloride, and methylnaphthalene. Additional analytical results of samples collected from waste oil that was released from the facility's storage tanks revealed levels of volatile organic compounds such as benzene, chloroform, tetrachloroethene, and trichloroethene above the TCLP regulatory limits for those compounds. In addition, the chemical solvent methyl ethyl ketone was also found in the waste oil (Table 1). The presence of chloroform, methyl ethyl ketone, tetrachloroethene, and trichloroethene exceed levels normally found in oil and are primarily chemical solvents used in metal degreasing operations.

V. OTHER ACTIONS TO DATE

The OSC met with representatives for the potentially responsible parties (PRPs) at the site on September 18, 1991. Follow-up discussions took place on September 20, 1991, with the PRPs agreeing to undertake cleanup activities. The PRPs stated that a workplan outlining detailed cleanup actions would be available by October 11, 1991.

Cleanup activities are initially to be undertaken by the Responsible Parties for the site. The U.S. EPA will take over removal activities if the PRPs fail to perform or complete the actions necessary to mitigate threats posed by the site.

On October 2, 1991, a contractor for the PRPs mobilized to the site and began stabilization activities. These activities included: removal of remaining waste oil from the storage tanks which had been released, berming the area off site to prevent further migration of waste oil, and repairs to the perimeter fence to provide security.

On October 25, 1991, the OSC ordered the contractor off site until a workplan and appropriate site health and safety plan were received and approved by the U.S. EPA. Please see the Enforcement Addendum for further discussion of this matter.

The proposed cleanup activities described in this action memorandum have been discussed with the MDNR Emergency Response Division, Southeast District office.

VI. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Enterprise Oil site present an imminent and substantial endangerment to public health, or welfare, or the environment based upon factors set forth in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300.415 (b)(2). These factors include:

a) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

This factor is present at the facility due to the existence of discharges of waste oil containing benzene, chloroform, tetrachloroethene, and trichloroethene above TCLP regulatory limits and also containing methyl ethyl ketone. The chemical solvents chloroform (5.5 mg/l TCLP), methyl ethyl ketone (38 mg/l TCLP), tetrachloroethene (3.2 mg/l TCLP), and trichloroethene (1.6 mg/l TCLP) are primarily used in metal degreasing operations. These chemical solvents and benzene (2.4 mg/l TCLP) are hazardous substances under Section 101(14) of CERCLA and are present in the waste oil at levels which exceed the levels normally found in refined petroleum fractions (see Table 1). Numerous discharges have resulted in large accumulations of waste oil inside and outside secondary containment structures. Drums have been found scattered across the site in various stages of deterioration. Analytical results have revealed benzene (30 mg/l), toluene (500 mg/l), xylene (2,200 mg/l), ethylbenzene (930 mg/l), and other hazardous substances to be present in some of these drums. The site has been the repeated target of vandalism and portions of the perimeter fence have been removed. Clothing and other personal belongings have been found on site, indicating that vagrants have been living within the buildings. Unrestricted access to the site by children and adults could result in direct contact with accumulated and discharged wastes.

b) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

This factor is present at the site due to the fact that the facility operated as a waste oil storage terminal. Two aboveground tank farms, with a combined storage capacity of 1.3 million gallons, have been observed along the northern boundary of the site. Within the past 2 years, the local fire department has responded to contain and remove material that had been released from these tanks. The U.S. EPA TAT and the OSC have documented off-site migration of waste oil that has been released. Analytical results of samples collected from the waste oil have revealed levels of chemical solvents such as chloroform (5.5 mg/l TCLP), methyl ethyl ketone (38 mg/l TCLP), tetrachloroethene (3.2 mg/l TCLP), trichloroethene (1.6 mg/l TCLP), and benzene (2.4 mg/l TCLP) not normally found in refined petroleum fractions (see Table 1). The above chemical solvents are listed as hazardous substances under Section 101(14) of CERCLA. The TAT site assessment also indicated that several tanks may contain waste oil or other material. Drums have been observed on site in various stages of deterioration. Air monitoring conducted with a photoionization detector (Hnu) and an organic vapor analyzer (OVA) from these drums has revealed levels ranging between 1 and 440 units on the Hnu and 1-1,000 ppm on the OVA, indicating the presence of volatile organic compounds. Some of the drums have been observed on their sides and open, releasing their contents.

c) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;

This factor is present at the site due to the existence of off-site migration of waste oil containing chemical solvents. One tank farm contains four 250,000-gallon tanks and a secondary containment structure comprised of four concrete walls and an earthen floor. On several occasions, waste oil was released into the containment structure permeating the earthen floor and migrating under the containment wall. Waste oil has been documented flowing from the containment structure and accumulating along railroad tracks north of the site. Analytical results of samples collected from the waste oil which had released from the on-site storage tanks has revealed elevated levels of chemical solvents such as methyl ethyl ketone (38 mg/l TCLP), benzene (2.4 mg/l TCLP), chloroform (5.5 mg/l TCLP), tetrachloroethene (3.2 mg/l TCLP), and trichloroethene (1.6 mg/l TCLP) which are not normally found in refined petroleum fractions and are hazardous substances under Section 101(14) of CERCLA.

d) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

This factor is present at the site due to the existence of soil within the secondary containment structure being heavily saturated with oil. During periods of heavy precipitation, waste oil could continue to migrate under the dike wall toward the railroad tracks north of the site. Increased rainfall would allow this waste oil to move along a depression parallel to the tracks and enter the storm sewer system where the tracks cross a surface street. Continued exposure of the drums to the outside elements could allow further deterioration, leading to a potential release of their contents.

e) Threat of fire or explosion;

This factor is present at the site due to the existence of drums suspected of containing isopropanol. Labels have been documented on some of the drums indicating isopropanol. Analytical results of samples collected from drums found on site revealed flash points ranging between 70-75° F and 80-85° F. If the drums were ignited, the residual waste oil remaining in the storage tanks could provide an additional combustion source and allow the fire to spread throughout the abandoned buildings remaining on site and possibly to the 25 residential homes bordering the site to the south.

f) The unavailability of other appropriate Federal or State response mechanisms to respond to the release;

Currently, neither the MDNR nor the City of Detroit have the necessary resources to undertake the required removal activities to eliminate the threats posed to the local residents and the public at this time.

VII. ENDANGERMENT DETERMINATION

The waste oil containing high levels of chlorinated chemical solvents released into the facility poses a direct contact threat to unauthorized persons entering the site. This waste oil has been documented migrating off site along the railroad tracks bordering the facility to the north. The waste oil released on site may have entered the City of Detroit's combined sewer system, which is released to the Detroit River during a controlled bypass of the water treatment plant during periods of heavy precipitation. The abandoned drums create a potential fire and explosion threat which could affect the nearby residences and commercial businesses. The leaking drums containing flammable solvents and other hazardous substances, as defined by RCRA, create a potential direct contact threat to people entering the site through unrestricted access.

Due to the conditions at this site, as described in the above sections, the actual or threatened releases of hazardous substances, if not addressed by implementing the response action proposed in this action memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

VIII. EMERGENCY EXEMPTION FROM STATUTORY LIMITS

The quantities and levels of hazardous substances found at the Enterprise Oil site warrant the $2 million exemption request based on the following factors:

1) An immediate risk to public health or welfare or the environment.

Analysis of waste oil which has released from storage tanks on site has revealed the presence of hazardous substances above TCLP regulatory limits for those compounds. Table 1 compares some of the constituents found in refined "virgin" oil to the waste oil which was released from the on-site tanks. The chemical solvents chloroform (5.5 mg/l TCLP), methyl ethyl ketone (38 mg/l TCLP), tetrachloroethene (3.2 mg/l TCLP), and trichloroethene (1.6 mg/l TCLP) are primarily used in metal degreasing operations. These chemical solvents, along with benzene (2.4 mg/l TCLP), are hazardous substances under Section 101(14) of CERCLA and are present in the waste oil at levels which exceed levels normally found in refined petroleum fractions. The waste oil released from these tanks has migrated and accumulated off site along railroad tracks bordering the site. These tracks are used as a sidewalk by school children on their way to and from an elementary school and the boys home for the mentally handicapped and orphaned located nearby. The site has been the repeated target of vandalism and portions of the perimeter fence have been removed from the area bordering the railroad tracks. Children walking and playing along the railroad tracks may become exposed to the elevated levels of contaminants present in the waste oil.

Drums containing low flash points (70-85° F) have also been found at the site in various stages of deterioration. If these drums were to ignite, the residual waste oil remaining in the nearby storage tanks could provide an additional combustion source and allow the fire, or chemical contaminants present in the oil, to spread to the 25 residential homes bordering the site to the south.

2) Continued response actions are immediately required to prevent, limit, or mitigate an emergency.

Storage tanks containing waste oil have been repeatedly vandalized resulting in a release of waste oil. The waste oil contains hazardous substances, as defined in Section 101 (14) of CERCLA, which exceed TCLP regulatory limits for those compounds (see Table 1). The waste oil has migrated off site along a pathway frequently used by school children, presenting a direct contact threat to those who travel or play along this route. Drums containing highly flammable liquids are present on the site and, if ignited, could pose a serious threat to the 25 residential homes bordering the site to the south. The waste oil and contaminated soil must be removed from the area along the railroad tracks to reduce the risk of direct contact by neighborhood children, and the drums must be overpacked and removed to eliminate the risk of fire and explosion to the residences nearby.

3) Assistance will not be otherwise provided on a timely basis.

Currently, neither the MDNR nor the City of Detroit have the necessary resources to undertake the required removal activities to eliminate the threats posed to the local residents and the public at this time.

IX. PROPOSED ACTIONS AND ESTIMATED COSTS

The purpose of this removal action is to mitigate the imminent and substantial threats posed to public health, or welfare, or the environment. Removal activities at the site include: inventory, sampling, compatibility testing, overpacking, or bulking compatible liquids and/or solids from drums and containers, and transporting drums and bulk liquids and/or solids to a RCRA/CERCLA-approved facility to be fuels blended or incinerated; the removal of all hazardous waste oil and sludge from abandoned and vandalized above- and belowground storage tanks; the disposal of all hazardous waste oil at a RCRA/CERCLA-approved disposal or recycling facility; the sampling, characterization, removal and consolidation of hazardous liquids and solids from all above- and belowground storage tanks, and subsequent disposal at a RCRA/CERCLA-approved disposal facility; demolition and disposal of all contaminated above- and belowground storage tanks; the decontamination, transport, and recycling of any scrap metal produced during the cleanup; a sampling program will be conducted to characterize the type and extent of contamination in areas affected by previous spills or leaks from storage tanks; and the excavation and disposal of contaminated soil identified during the sampling program at a RCRA/CERCLA-approved disposal facility. If the scrap metal cannot be decontaminated sufficiently, it will be disposed of at a RCRA/CERCLA-approved facility.

The following removal activities are proposed:

1) Establish site security.

2) Develop and implement site safety measures.

3) Implement an air monitoring program during site activities.

4) Stage, sample, characterize, and overpack all drummed and containerized hazardous substances, pollutants, wastes, or contaminants found on site.

5) Sample, characterize, remove, and dispose of all waste oil, hazardous liquids, and hazardous sludge found in all aboveground storage tanks. Decontaminate, remove, and/or dispose of all aboveground storage tanks, process piping and pumping stations.

6) Sample and characterize the contents of all underground storage tanks, and remove all contaminated oil and other hazardous substances found in the underground storage tanks.

7) Conduct a sampling program to characterize the type and extent of soil contamination, excavate and dispose of all characterized contaminated soil, and conduct post cleanup sampling to verify that all contaminated soil has been removed to cleanup levels as determined by the On-Scene Coordinator.

8) Decontaminate or dispose of all scrap metal produced during the cleanup.

9) Transport and dispose of all characterized hazardous substances, pollutants, or contaminants at a RCRA/CERCLA-approved disposal facility.

Removal activities will require approximately 190 on-site working days to complete. The threats posed by storage tanks containing waste oil and sludge with chemical compounds above the TCLP regulatory limit, drummed hazardous substances, pollutants, or contaminants, and contaminated surface soil meet criteria listed in section 300.415(b)(2) of the NCP and are consistent with any long-term remedial action which may be required.

The OSC has begun planning for the provision of post-removal site control, consistent with the provisions of Section 300.415(k) of the NCP. The nature of this removal, elimination of all surface threats, is, however, expected to minimize the need for post-removal site control.

The detailed cleanup contractor costs are presented in Attachment 1 and estimated project costs are summarized below:

EXTRAMURAL COSTS

Cleanup Contractor Costs	$1,000,000
Contingency (20%)	200,000
Subtotal	$1,200,000
Total TAT, including multiplier costs	342,000
Extramural Subtotal	$1,542,000
Extramural Contingency (20 % of Extramural Subtotal, rounded to nearest thousand)	$ 308,400
TOTAL, EXTRAMURAL COSTS:	$1,850,400

INTRAMURAL COSTS

U.S. EPA Direct Costs [$30 x (1,900 Regional Hrs. + 190 HQ Hrs.)]	$ 62,700
U.S. EPA Indirect Costs ($53 x 1,900 Regional Hrs.)	$ 100,700
TOTAL, INTRAMURAL COSTS:	$ 163,400
TOTAL REMOVAL PROJECT CEILING ESTIMATE	$2,013,800

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants, or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements (ARARs)

All applicable or relevant and appropriate requirements (ARARs) of Federal law will be complied with to the extent practicable. A letter has been sent to the MDNR Emergency Response Division, Lansing, Michigan, office requesting that it identify State ARARs. Any State ARARs identified in a timely manner for this removal action will be complied with to the extent practicable.

X. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Presently, conditions at the site could lead to increased health risks to the surrounding neighborhood should action be delayed. Waste oil has been documented migrating off site along the railroad tracks north of the facility. Access to the site is unrestricted and vandalism and/or vagrancy could lead to an additional release of waste oil or hazardous substances contained in abandoned drums and storage tanks. Any fire or additional release of hazardous substances could lead to exposure to hazardous substances of the nearby residences bordering the site.

XI. OUTSTANDING POLICY ISSUES

Under Section 104(A)(2) of CERCLA, petroleum "...including crude oil or any fraction thereof...", is excluded from the definition of hazardous substances, pollutant or contaminant. This is known as the "Petroleum Exclusion" under CERCLA. In order for waste oil to fall out of the petroleum exclusion, it must contain hazardous substances found in Section 101(14) of CERCLA which exceed levels normally found in refined petroleum fractions for those compounds. Analytical results of samples collected from the waste oil released at the Enterprise Oil site revealed elevated levels of chemical solvents primarily used in degreasing operations.

Table 1 compares the analytical results of samples collected from the waste oil which has migrated off-site (SO1), to those levels found in refined "virgin" oil (VO1). Chemical compounds identified in sample VO1 are far below the TCLP regulatory limit established for those compounds, and actually may be lower than the analytical method detection limit. Benzene, commonly found in motor oil and gasoline was detected in sample SO1 at a level of 2.4 ppm TCLP, almost five times above the regulatory limit of 0.5 ppm. Trichloroethene and tetrachloroethene, commonly known as tri and tetrachloroethylene, are well known solvents used in degreasing operations. These compounds were detected at levels three to four times higher than TCLP regulatory limits. Another well known degreasing solvent, methyl ethyl ketone, was not above TCLP limits, but well above the level found in the refined "virgin" oil sample VO1. The level of chlorine present in the waste oil migrating off site is ten times higher than that normally found in refined petroleum fractions, indicating that the operators of the Enterprise Oil facility may have been commingling degreasing solvents and waste oil in the same tanks.

Because the levels of chloroform, methyl ethyl ketone, tetrachloroethene, and trichloroethene found in the waste oil at the site exceed those which are normally found in crude oil or refined petroleum fractions and are defined as hazardous substances under Section 101(14) of CERCLA, the petroleum exclusion for waste oil under CERCLA does not apply.

The proposed removal action is necessary should the responsible parties fail to perform the required removal activities to mitigate the threats posed at the Enterprise Oil site.

XII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this site is contained in an Enforcement Confidential Addendum.

XIII. RECOMMENDATION

This decision document represents the selected removal action for the Enterprise Oil site in Detroit, Michigan, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the site. Conditions at the site meet the NCP section 300.415(b)(2) criteria for a removal action, and I recommend your approval of the proposed removal action. The total project ceiling, if approved, will be $2,013,800. Of this, $1,850,400 is for extramural contractor costs.

APPROVE _____ DATE 3/29/92
Assistant Administrator
for Solid Waste and Emergency Response

DISAPPROVE _____ DATE _____
Assistant Administrator
for Solid Waste and Emergency Response

Enforcement Addendum
Attachments
1. Detailed Cleanup Contractor Cost
2. Index to Administrative Record
3. Table 1 - U.S. EPA Waste Oil and Virgin Oil Sample Results

cc: T. Johnson, OS-210
Alan Howard, MDNR, Superfund Section, P.O. Box 30028, Lansing, MI 48909
Shelia Huff, U.S. Department of the Interior, 230 S. Dearborn, Rm 3422, Chicago, IL 60604

bcc: R. Nelson/T.Branigan, CS-3T
A. Bauman, HS-6J
R. Powers/R. Buckley, HSE-GI
R. Bowden, HSE-5J
P. Schafer, HSE-5J
L. Beasley, HSE-5J
L. Fabinski, ATSDR, HS-6J
O. Warnsley, RP/CRU, HS-6J
T. Lesser, P-19J
F. Myers, 5MB-19J
P. Guria, HSE-GI
R. Dumelle, MC-10J
EERB Read File
EERB Delivery Order File
EERB Site File

ENFORCEMENT ADDENDUM

ENTERPRISE OIL SITE
DETROIT, MICHIGAN
FEBRUARY 1992

Redacted-information not relevant to the selection of the removal action.

ATTACHMENT 1

DETAILED CLEANUP CONTRACTOR COST ESTIMATE
ENTERPRISE OIL SITE
DETROIT, MICHIGAN
FEBRUARY 1992

The estimated cleanup contractor costs are as follows:

ERCS Personnel	$ 175,000
ERCS Equipment and Materials	300,000
ERCS Subcontractors	200,000
Sampling and Analytical	25,000
Transportation and Disposal	300,000
TOTAL	$1,000,000

ATTACHMENT 2

ADMINISTRATIVE RECORD
FOR
ENTERPRISE OIL

December 5, 1991

DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
10/31/91	Ecology & Environment	U.S. EPA	Site Assessment/ Analytical Results	152
00/00/00	Adamkus, A., U.S. EPA	Clay, D., U.S. EPA	Action Memorandum	

TABLE 1
U.S. EPA
WASTE OIL AND VIRGIN OIL SAMPLE RESULTS (a)
ENTERPRISE OIL SITE
DETROIT, MICHIGAN

Parameter (b)	S01	V01	Regulatory Limit
Barium	0.15	NA	100
Cadmium	<0.01	<0.01	1.0
Chromium	<0.2	<0.2	5.0
Lead	<0.12	<0.12	5.0
Mercury	<0.002	<0.025	0.2
Zinc	6.0	47	500
Benzene	2.4	<0.2	0.5
Chloroform	5.5	<0.20	6.0
Methyl Ethyl Ketone	38	<5.0	200
Tetrachloroethene	3.2	<0.20	0.7
Trichloroethene	1.6	<0.20	0.5
Vinyl Chloride	<0.20	<0.20	0.2
Total Organic Halide As Cl	5200(c)	520(c)	---

(a) Samples analyzed by Canton Analytical Laboratory, Plymouth, MI

(b) Results are TCLP, milligrams per liter (mg/l)

(c) Results are totals in parts per million (ppm).

NA Not Analyzed

S01 Waste Oil collected from northern dike wall, 10/10/91

V01 Virgin Oil composite sample (10w40, 10w30), 10/31/91